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Elaine Hebert, Energy Specialist
California Energy Commission
1516 Ninth Street, MS-25
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RE: Section 118 of Title 24

Dear Elaine:

I am contacting you to encourage the California commission to adopt the cold weather flexibility test D-522, (mandrel bend at 0 degree F), in place of the elasticity test now in their specs. (Or ASTM D-746, flexibility at -37°C, testing which our Thermo-Shield Roof Coating has passed.)

Our Thermo-Shield Roof Coatings are a prime example for the importance of making this change.
They have been on the market since 1986, starting in Colorado Springs where they were developed, a climate that has hot weather, cold weather, incredible thermal shock with temperature changes as much as 50 degrees within an hours time, extreme UV with an altitude over 6000 feet, and strong winds, hail, snow, all common. After 18 years in these conditions, our Roof Coating is still in place, still flexible, still waterproofing. Our Roof Coat will not pass your elasticity tests, it will pass the cold weather mandrel test.

Our coatings were designed to save energy long before it became "the thing to do". Thermo-Shield Roof Coat was one of the coatings in the 3 year Oak Ridge test program, sponsored by the National Roof Coating Manufacturers Assn., the US Department of Energy, and the EPA, a test program on 26 reflective roof coatings from around the USA. This program was designed to determine the benefit of reflective coatings in reducing heat flux and energy loads, plus the effect of aging on these coatings.
At the end of the 3 year test period, our Thermo-Shield Coatings were number one in heat flux reduction, a 66% reduction compared to the bitumen control panels. This was about 30% more efficient than the nearest competitors in the test program (other white coatings), and far better than other types of reflective coatings.

If the CA Energy Commission maintains the requirement for the excessive, unnecessary degree of elongation tests, our coating will not pass. The customers of California will be denied "quite possibly, the best coating on the market for energy savings", coatings proven to last 18 years and counting, BECAUSE OF UNECESSARY AMOUNT OF ELONGATON REQUIRMENTS now in the standards.

Not only were our Thermo-Shield roof coatings designed specifically to save energy, provide sufficient elasticity to seal cracks and keep them sealed, provide excellent waterproofing, they also solve the following common problems:

1. They breathe, allowing water vapor developed within the building to escape. Other coatings trap this water saturating existing insulation (and 2% moisture in bulk insulation drops the R-Value by about 50%).
2. They have fantastic chemical resistance against acids, salts, bases. We have coated huge sulfuric and hydrochloric Acid Storage Tanks, Petroleum tanks and pipe lines, warehouses along the seaside, which are performing well in excess of 10 years now.
3. They have fantastic fire resistance, wild fires in one housing development in Northern CA this last summer left only 3 houses standing out of 60, the surviving houses were coated exterior and roof with Thermo-Shield Roof Coat and our Wall Coatings.
4. They are fade resistant (The best in Japanese Industrial Standards testing), and tend to be self cleaning in rain. (Our coatings are ceramic filled, which add many properties including dirt resistance).
5. They do not develop electrostatic dirt build up, (Testing by Korean Subway system, who use them for fire resistance and to keep subway stations clean).
6. The hollow vacuum ceramic bubbles deaden sound, so quieter within the building, especially on metal roof buildings. (Customer documented).
7. They are effective long term in extreme heat and cold (for example, in use on kiln doors to keep workers from getting burned and used on Colorado Ski Lifts where the cold is extreme and the vibration great, they are 15+ years old in these very cold conditions and still performing well.

What I am trying to tell you here, if the current elasticity standards are kept in place, this is one of the superb coatings on the market that will be banned from the CA market. It is by Far The Best Product Tested for energy saving by the US Government in the 3 year Oak Ridge study. It has proven superb long life in extreme climates all over the World. It has been specifically designed to solve all the common problems found in a wide range of building products.

Please revise your standards to use the cold weather mandrel test, D-522, as the CA standard.

I am attaching a letter from Oak Ridge Laboratories indicating Thermo-Shield was the number one energy saving product tested.

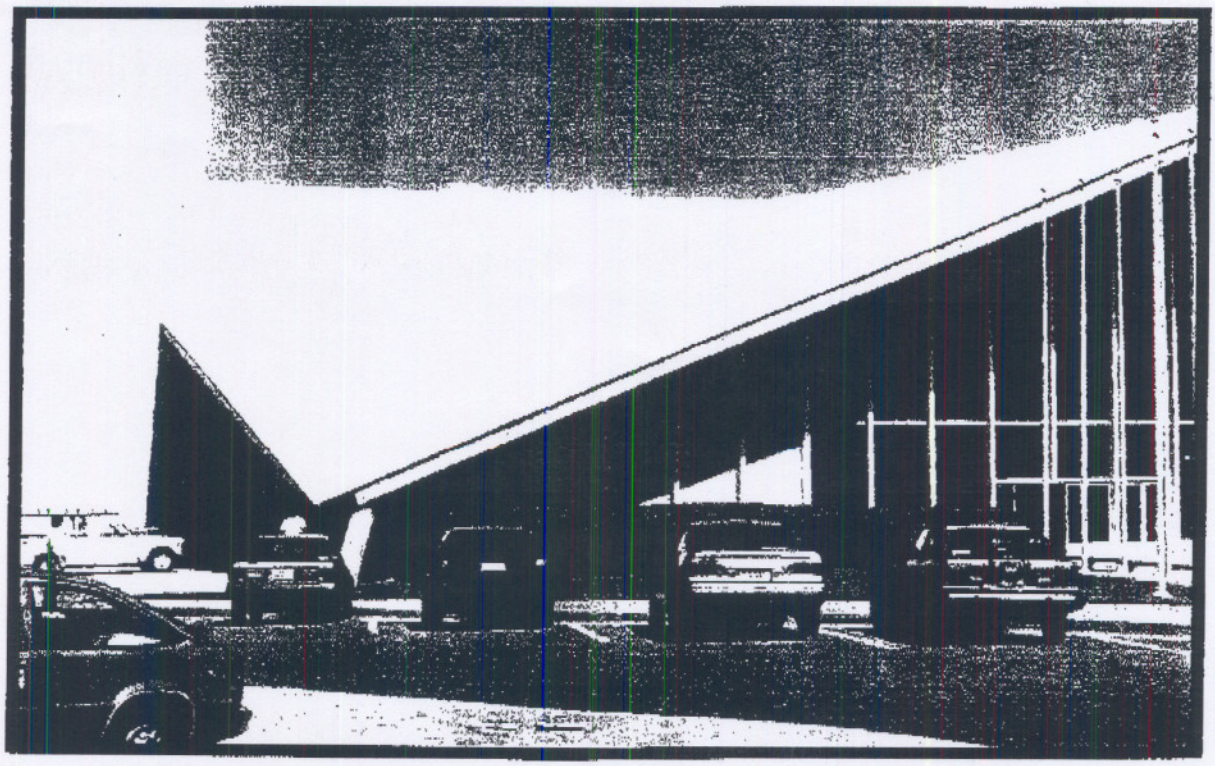
We could send you many examples of Thermo-Shield providing cold weather flexibility, we are attaching one which clearly demonstrates that our coating has sufficient elasticity to solve extreme problems in cracking and waterproofing. One of the first roofs coated with the Thermo-Shield Roof Coating, was the Broadmore Convention Center in Colorado Springs, CO. Their problem: They have an open span convention center building, held up by an internal cable system. It is a heavy concrete roof, but when the strong winds blow across it, the roof raises up and down (line an airplane wing) and the roof was continually cracking open and leaking. They tried numerous repairs but nothing would stop the cracking and leaking, so they decided to tear the building down. Then they found Thermo-Shield, newly developed in Colorado Springs, and tried it as a final resort. The building is still standing, dry for the past 18 years, no more cracking even in these extreme conditions. They say "This is the building Thermo-Shield saved ." Your test requirements will ban this product from the CA market because of "flexibility testing". I am attaching a photo of the Broamore Convention Center and a description of their problems solved with Thermo-Shield.

Sincerely yours,

Joe Raver

Joe Raver, President

THE BROADMORE CONVENTION CENTER
COLORADO SPRINGS, COLORADO



THE BROADMORE INTERNATIONAL CONVENTION CENTER
COLORADO SPRINGS, COLORADO

This building, erected in the 1960's, had a nightmare roof, plagued with many incurable problems, until THERMO-SHIELD cam along and solved them:

1) There are no interior supports, the roof is held up by a cable system. Strong winds cause the roof to act like an airplane wing and raise up, so there is often motion, causing cracking and roof damage to several roof systems they tried, a new one every two to for years. THERMO-SHIELD'S flexibility moves with the roof and keeps it from cracking open, even in the cold winter.

2) As snow melts in the winter, great amounts of ice accumulate in the corners, and used to tear chunks of the roofing materials away. THERMO-SHIELD'S great adhesion to the substrate has solved this.

3) At 6000 feet the UV deteriorated other roofing materials rapidly, UV actually protects THERMO-SHIELD 'S polymers. The tremendous thermal shock of being sandwiched between the Rocky Mts. And the desert is very destructive on other roofing materials. THERMO-SHIELD stays flexible below -40 degrees F, and withstands temperatures up to 300 degrees F. THERMO-SHIELD is holding up against nature's forces on this roof.

The owners of the convention center were considering tearing it down because they could find no roofing product to solve their problems. THERMO-SHIELD has proven it can take care of these problems on a long-term basis, protecting the Broadmore Convention Center for over 7 years now. The engineers have told the contractor they seldom need to run the air conditioners even on hot days.

(On homes and other buildings with overhanging eves, snow melts as heat escapes through the roof. The water will run to where the overhanging eves are cold and freeze there, causing a dam and often backing water back up into the roof, causing problems. THERMO-SHIELD stops this process by reducing the heat loss through the roof.)

The Broadmore Convention Center was first coated with Thermo-Shield Roof Coating in 1986. The adjacent photo was taken in 1991, note the roof is still very white. In 1996, ten years later, it was re-coated with Thermo-Shield because it was starting to show signs of wear, it was still water tight. Thermo-Shield solved all the Broadmore roof problems for 10 years where other roofing systems had failed in two to four years.